

1365

1370

1375

Lys Arg Pro Trp Ser Asn Leu Glu Val Val Ala Ala Met Phe Lys Ile
 1380 1385 1390

Gly Lys Ser Lys Ser Ala Pro Pro Ile Pro Glu Asp Thr Leu Pro Leu
 1395 1400 1405

Ile Ser Gln Ile Gly Arg Asn Phe Leu Asp Ala Cys Phe Glu Ile Asn
 1410 1415 1420

Pro Glu Lys Arg Pro Thr Ala Asn Glu Leu Leu Ser His Pro Phe Ser
 1425 1430 1435 1440

Glu Val Asn Glu Thr Phe Asn Phe Lys Ser Thr Arg Leu Ala Lys Phe
 1445 1450 1455

Ile Lys Ser Asn Asp Lys Leu Asn Ser Ser Lys Leu Arg Ile Thr Ser
 1460 1465 1470

Gln Glu Asn Lys Thr Glu
 1475

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 672 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

Met Val Thr Ala Val Pro Ala Val Phe Ser Lys Leu Val Thr Met Leu
 1 5 10 15

Asn Ala Ser Gly Ser Thr His Phe Thr Arg Met Arg Arg Arg Leu Met
 20 25 30

Ala Ile Ala Asp Glu Val Glu Ile Ala Glu Val Ile Gln Leu Gly Val
 35 40 45

Glu Asp Thr Val Asp Gly His Gln Asp Ser Leu Gln Ala Val Ala Pro
 50 55 60

Thr Ser Cys Leu Glu Asn Ser Ser Leu Glu His Thr Val His Arg Glu
 65 70 75 80

Lys Thr Gly Lys Gly Leu Ser Ala Thr Arg Leu Ser Ala Ser Ser Glu
 85 90 95

Asp Ile Ser Asp Arg Leu Ala Gly Val Ser Val Gly Leu Pro Ser Ser
 100 105 110

Thr Thr Thr Glu Gln Pro Lys Pro Ala Val Gln Thr Lys Gly Arg Pro
 115 120 125

His Ser Gln Cys Leu Asn Ser Ser Pro Leu Ser His Ala Gln Leu Met
 130 135 140

Phe Pro Ala Pro Ser Ala Pro Cys Ser Ser Ala Pro Ser Val Pro Asp
 145 150 155 160

Ile Ser Lys His Arg Pro Gln Ala Phe Val Pro Cys Lys Ile Pro Ser
 165 170 175

Ala Ser Pro Gln Thr Gln Arg Lys Phe Ser Leu Gln Phe Gln Arg Asn
 180 185 190

Cys Ser Glu His Arg Asp Ser Asp Gln Leu Ser Pro Val Phe Thr Gln
 195 200 205

Ser Arg Pro Pro Pro Ser Ser Asn Ile His Arg Pro Lys Pro Ser Arg
 210 215 220

Pro Val Pro Gly Ser Thr Ser Lys Leu Gly Asp Ala Thr Lys Ser Ser
 225 230 235 240

Met Thr Leu Asp Leu Gly Ser Ala Ser Arg Cys Asp Asp Ser Phe Gly
 245 250 255

Gly Gly Gly Asn Ser Gly Asn Ala Val Ile Pro Ser Asp Glu Thr Val
 260 265 270

Phe Thr Pro Val Glu Asp Lys Cys Arg Leu Asp Val Asn Thr Glu Leu
 275 280 285

Asn Ser Ser Ile Glu Asp Leu Leu Glu Ala Ser Met Pro Ser Ser Asp
 290 295 300

Thr Thr Val Thr Phe Lys Ser Glu Val Ala Val Leu Ser Pro Glu Lys
 305 310 315 320

Ala Glu Asn Asp Asp Thr Tyr Lys Asp Asp Val Asn His Asn Gln Lys
 325 330 335

Cys Lys Glu Lys Met Glu Ala Glu Glu Glu Ala Leu Ala Ile Ala
 340 345 350

Met Ala Met Ser Ala Ser Gln Asp Ala Leu Pro Ile Val Pro Gln Leu
 355 360 365

Gln Val Glu Asn Gly Glu Asp Ile Ile Ile Ile Gln Gln Asp Thr Pro
 370 375 380

Glu Thr Leu Pro Gly His Thr Lys Ala Lys Gln Pro Tyr Arg Glu Asp
 385 390 395 400

Ala Glu Trp Leu Lys Gly Gln Gln Ile Gly Leu Gly Ala Phe Ser Ser
 405 410 415

Cys Tyr Gln Ala Gln Asp Val Gly Thr Gly Thr Leu Met Ala Val Lys
 420 425 430

Gln Val Thr Tyr Val Arg Asn Thr Ser Ser Glu Gln Glu Glu Val Val
 435 440 445

Glu Ala Leu Arg Glu Glu Ile Arg Met Met Gly His Leu Asn His Pro
 450 455 460

Asn Ile Ile Arg Met Leu Gly Ala Thr Cys Glu Lys Ser Asn Tyr Asn
 465 470 475 480

Leu Phe Ile Glu Trp Met Ala Gly Gly Ser Val Ala His Leu Leu Ser
 485 490 495

Lys Tyr Gly Ala Phe Lys Glu Ser Val Val Ile Asn Tyr Thr Glu Gln
 500 505 510

Leu Leu Arg Gly Leu Ser Tyr Leu His Glu Asn Gln Ile Ile His Arg
 515 520 525

C
Cmt

Asp Val Lys Gly Ala Asn Leu Leu Ile Asp Ser Thr Gly Gln Arg Leu
 530 535 540
 Arg Ile Ala Asp Phe Gly Ala Ala Ala Arg Leu Ala Ser Lys Gly Thr
 545 550 555 560
 Gly Ala Gly Glu Phe Gln Gly Gln Leu Leu Gly Thr Ile Ala Phe Met
 565 570 575
 Ala Pro Glu Val Leu Arg Gly Gln Gln Tyr Gly Arg Ser Cys Asp Val
 580 585 590
 Trp Ser Val Gly Cys Ala Ile Ile Glu Met Ala Cys Ala Lys Pro Pro
 595 600 605
 Trp Asn Ala Glu Lys His Ser Asn His Leu Ala Leu Ile Phe Lys Ile
 610 615 620
 Ala Ser Ala Thr Thr Ala Pro Ser Ile Pro Ser His Leu Ser Pro Gly
 625 630 635 640
 Leu Arg Asp Val Ala Val Arg Cys Leu Glu Leu Gln Pro Gln Asp Arg
 645 650 655
 Pro Pro Ser Arg Glu Leu Leu Lys His Pro Val Phe Arg Thr Thr Trp
 660 665 670

(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1314 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Met Met Met Asp Ile Leu Asn Thr Gln Gln Gln Lys Ala Ala Glu Gly
 1 5 10 15
 Gly Arg Val Leu Ala Pro His Thr Ile Ser Ser Lys Leu Val Lys Arg
 20 25 30
 Leu Ser Ser His Ser Ser His Lys Leu Ser Arg Ser Asp Leu Lys Ala
 35 40 45
 Leu Gly Gly Ser Glu Thr Ile Ser Asp Gly Pro Ser Gln Leu Thr Phe
 50 55 60
 Lys Asp Arg Tyr Val Phe Asn Glu Ser Leu Tyr Leu Lys Lys Leu Lys
 65 70 75 80
 Lys Thr Ala Leu Asp Asp Tyr Tyr Thr Arg Gly Ile Lys Leu Thr Asn
 85 90 95
 Arg Tyr Glu Glu Asp Asp Gly Asp Asp Glu Ile Ile Arg Leu Ser Asn
 100 105 110
 Gly Asp Arg Ile Asp Glu Asp Leu His Ser Gly Val Lys Phe Phe Ser
 115 120 125
 Thr Thr Pro Tyr Cys Arg Lys Met Arg Ser Asp Ser Asp Glu Leu Ala
 130 135 140

C
Cont